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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,759	11/27/2000	Christopher B. Shumate	AURO1100-5	6801

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EXAMINER

HANDY, DWAYNE K

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 10/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

cb5

Office Action Summary

Application No.

09/723,759

Applicant(s)

SHUMATE ET AL.

Examiner

Dwayne K Handy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) 3-5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Inventorship

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stylli et al. (5,985,214) in view of Liner et al. (4,038,149). Stylli teaches an automated workstation that includes a unit for storing microplates in a stack. The stacking unit is best shown in Figures 15A and 15B. Its operation is detailed in columns 52 and 53.

From column 52:

(254) A universal stacker/destacker that can handle work units, e.g., plates, by stacking or destacking a plurality of units, both with and without lids. It can often act as a buffer between an storage and retrieval module and the sample transporter. The universal stacker/destacker should minimize the height of a completed stack. Ideally, stack height should not be any more than the sum of the height of the stacked units. The universal stacker/destacker should also be able to accept plates of different heights. Plates can vary in height depending on the well capacity (typically between 1.2 cm and 5.5 cm). Therefore, a separator device is largely unacceptable. Stacking and destacking can be accomplished by a plate lifter that can bottom load and bottom unload a plate in a stack, while maintaining the position of the stack. Alternatively, the universal stacker/destacker may move down or up and the platen maintain its Z- position. Plates are kept in place by either providing a plate holding means disposed on the universal stacker/destacker frame or a plate holding means disposed on a platen (e.g., as depression on the platen into which a single plate falls while leaving behind the remainder of the stack when the platen is withdrawn). Preferably, the universal stacker/destacker should also be able to release an entire stack, if transport of the entire stack is desired.

(255) FIG. 15A (plan view) and FIG. 15B show a Universal stacker/destacker with a work unit 710 (shown with a lid) on a platen 715. **To stack the work unit the platen is vertically lifted into the frame of the universal stacker/destacker.** The amount of vertical lift distance can be a calculated distance based on the type of work unit. This value can then be used by the data processing and integration module to control the vertical lift of the platen. This information can be contained in the data processing and integration module Data Store and can be used to drive a work unit's unit Z-positioning device. The work unit is guided by a three sided stack enclosure 711. As the work unit is lifted, it may come in contact with pressure pins 714 either indirectly (with another work unit above it that is engaged by pressure pins 714) or directly, if no work unit is above it. **Once the work unit is lifted sufficiently, pressure pins 714 release the work unit immediately above the newly entered work unit and engage the new work unit. The new work unit, and all higher stacked units 712 are then raised a calculated distance to securely engage the lower skirt of a plate 713 with pressure pins 714.** The pressure pins can engage the work units with a preset pressure based a retractable spring or spring like mechanism or a variable pressure based on a retractable piston that is computer-controlled to permit release or engagement of work units.

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The Examiner believes this cited passage contains the same basic steps as applicant's method in claims 1 and 2. Work units already in the stack are supported by pressure pins (714). New or additional work units (plates) are added to the stack by raising the new work unit via the platen (715) to a position on the bottom of the stack. The work unit above the new unit is released from its engagement with the pressure pins and the stack is then raised. The pressure pins then engage the new plate and support the stack. As to the addition of a third plate (or more), it would be obvious to repeat the steps in order to add more plates to the stack. In column 53, line 9, the reference states that down stacking is done by reversing the steps. This would meet the limitations of the method steps recited in claim 2. Stylli does not teach a microplate with recesses in the lid for engaging the support features (pins).

Liner teaches a microplate with a lid. The device includes a tray (12) with a lid (14) that has depending walls (20) that form a skirt (40) for covering the cups (18) in the tray. The tray also includes finger grip surfaces (60) to facilitate handling of the tray. The lid contains recesses (62) for exposing the surfaces (60) to be handled (column 3, line 48 – column 4, line 22). It would have been obvious to combine the microplate of Liner with the stacking system and method of Stylli. One would add the microplate of Liner to take advantage of the gripping surfaces provided in the recesses of Liner's lid. This surface would be advantageous in handling the microplates.

Allowable Subject Matter

4. Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. While the prior art cited by the Examiner teaches the stacking and destacking of microplates, it does not teach a process for removing the lid from the plate.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lyman et al. (5,084,246), Lukacsek (4,271,270), and Lam (5,083,666) teach containers that have lids with recesses. Hijikata et al. (4,727,033), Sakuma (4,861,554), Armes et al. (4,676,951), Karl et al. (5,674,454), Ganz et al. (6,148,878), and Kercso et al. (6,495,369) teach automated analysis systems with units for stacking microplates. Bevirt et al. (6,193,102) and Astle (6,274,374) teach stacking devices. Clarke et al. (6,449,827) show an apparatus for gripping microplates while removing the lid. Friedman (6,408,595) discloses a microplate cover applicator.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K Handy whose telephone number is (703)-305-0211. The examiner can normally be reached on M-F 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (703)-308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.

Dkh
September 30, 2003


Jill Warden
Supervisory Patent Examiner
Technology Center 1700